

HETEROJUNCTION BIPOLAR TRANSISTOR WITH InGaAs  
CONTACT AND ETCH STOP LAYER FOR InP SUB-COLLECTOR

ABSTRACT OF THE DISCLOSURE

5           A thin InGaAs contact layer is provided for the  
collector of a heterojunction bipolar transistor (HBT)  
above an InP sub-collector. The contact layer provides a  
low resistance contact mechanism and a high thermal  
conductivity path for removing device heat through the  
10           sub-collector, and also serves as an etch stop to protect  
the sub-collector during device fabrication. A portion of  
the sub-collector lateral to the remainder of the HBT is  
rendered electrically insulative, preferably by an ion  
implant, to provide electrical isolation for the device  
15           and improve its planarity by avoiding etching through the  
sub-collector.

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